A CRITICAL LOOK AT THE PILOT RETENTION PROBLEM IN THE AIR FORCE

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Abstract

In its little over 50 year history, the Air Force has experienced several periods of large numbers of pilots leaving the service resulting in critical pilot manning problems. Currently, pilot retention is one of the most serious challenges facing senior leadership. This paper will examine the similarities and differences between the pilot exodus of the late 1970s and the current situation. It is possible that lessons learned in the past can provide some aid in curing today's and projected future poor retention rates. Specifically, initiatives employed in the 1970s will be examined for their applicability today. Also, there has been a push in the last few years to identify the various reasons why pilots are leaving the Air Force prior to retirement age. The policies implemented to address these concerns will be briefly examined. Only time will tell how effective these initiatives will be in slowing the pilot exodus. The paper concludes with a look at potential problem areas in the retention struggle and a few possible courses of action.

A CRITICAL LOOK AT THE PILOT RETENTION

PROBLEM IN THE AIR FORCE

I. Introduction

"Our retention problem may become so severe that it may impact readiness ..... I will leave no stone unturned to work this problem" (AMC Retention Homepage, 1998). "You can't turn it [pilot retention] around quickly. It's like the Titanic" (Pulley, 1998). If low pilot retention persists, it will "directly affect the readiness of our combat units" (Chapman, 1997).

The above comments were made by the Commander of Air Mobility Command (AMC), Commander of Air Combat Command (ACC), and the United States Air Force (USAF) deputy chief of staff for Personnel respectively, within the last year. The rate at which pilots are separating from the Air Force has officials at all levels concerned. All major indicators of pilot retention exhibit a downward trend that is not forecast to improve in the near future. A variety of measures have been taken to stem the current exodus and many more are being contemplated. However, this is not the first time in the 50-year history of the Air Force that pilot retention has become a problem. During the late 70s and again in the late 80s, the Air Force found itself in similar situations. It is possible that some lessons can be learned from the previous situations and that maybe the Air Force can avoid mistakes made in the past.

How do we retain enough of our pilots to maintain readiness? Are there recurring themes from past experiences that could offer a basis for solving today's retention woes? These are the central questions that will provide a framework for the rest of the paper. In

Section II, a discussion of the history of rated management is provided to give readers an understanding of how the method of managing the pilot force has evolved. Pilots are not the only rated officers (there are navigators, electronic warfare officers, etc.), but for the purposes of this paper, rated management will be limited to pilots. This will be followed in Section III by a review of the crisis experienced during the late 1970s. The previous problem, on the surface, seems to closely mirror the current situation and hopefully, will provide some insight into dealing with current retention issues. Section IV thoroughly covers the pilot retention problem as it exists today. It includes a summary of initiatives that have been implemented to date and some ideas that are being considered for the future as well. Section V compares the two eras to obtain any lessons learned in the past that might be aid today's leaders. In Section VI, three potential problem areas are identified with continuing to address pilot shortages using previous methods. These areas represent potentially large obstacles in the path to curing retention woes. Section VII concludes the paper with some suggestions for possible courses of action. The ultimate goal is to provide insight into the situation that will lead to the development of a successful plan to improve pilot retention.

II. History of Rated Management

Overview

Prior to 1975, the USAF lacked a clearly defined rated management policy. The preferred method of handling the pilot force was to downscale following the resolution of any major conflict and to increase the numbers of pilots produced in anticipation of any great demand. This trend can be observed in Appendix A, which shows the historical pilot production, inventory and requirements from 1951 to 1997 (Garton, 1998).

Following the post World War II drawdown, the Air Force found itself almost 14,000 pilots short at the onset of the Korean War. The solution was to rapidly increase pilot production from 2006 pilots in FY 51 to 6401 in FY 54. Inventory eventually caught up with requirements in FY 58 as a deficit eventually became a surplus of 1711.

Following the Korean War, production then tapered off and requirements came down from a high of 57,300 in FY 57 to 37,400 in FY 65, just prior to the Vietnam War. The Air Force went from a 2,249 pilot surplus in FY 66 to a shortage of 7753 the following year due in large part to requirements growing from 38,200 to 46,200. This shortage was handled in the same way as the previous one -- raise pilot production numbers. Production was immediately increased 50% from FY 66 to FY 67 and continued to rise to a high of 4032 in FY 72. The deficit this time was shorter in duration and represented a smaller percentage than the situation in the early 50s. During the early years of the Korean War, the Air Force was manned at only 75% of its requirements while the deficit in 1967 represented a 16.7% shortfall.

Pilot production and requirements continued to decline throughout the 70s until a low of 1047 pilots were produced in 1979 and inventory requirements dropped to slightly over 23,000. The Air Force found itself faced with a challenging situation in the late 70s as a pilot surplus once again quickly became a pilot shortage. Only this time, the shortage was not due to a large increase in requirements. Instead, this problem was caused by pilots exiting (either retiring or voluntarily separating) the force in large numbers. The deficit of 1329 pilots in FY 79 represented only a 5.5% shortfall and was quickly turned around within 5 years. Pilot production was increased to an average of 1700 pilots per year from FY 80 to FY 91 and a small surplus was the norm throughout the mid 80s.

As the 80s drew to a close, many personnel experts predicted a large hiring surge from the airlines and a large pilot deficit. However, several things occurred which mitigated this problem. First, the collapse of the former Soviet Union in 1989 led to a call from the American public for a peace dividend to be realized by drawing down the military. A massive drawdown of the Department of Defense began and the Air Force was targeted as well as the other services. Pilot requirements were slashed from 22,300 in FY 89 to 15,207 in FY 94, a reduction of 32%. Second, the Gulf War drove oil prices up and led many airlines to furlough newly hired pilots as opposed to the hiring frenzy predicted by many. Therefore, the shortage reached only 583 pilots in FY 90, which represented a 2.7% deficit.

For reasons to be examined later in this paper, pilot production was reduced in the early 90s to an all-time low of 480 in FY 95 while requirements for the time seem to have leveled off at slightly over 14,000. The Air Force is now faced with going from a mild

surplus of 409 in FY 96 to a possible 17% deficit (2,341 pilots short) by FY 02 (Garton, 1998). This projected deficit clearly distinguishes the current situation from previous shortages.

History of Formal Rated Management Process

The formalized rated management process originated in early 1973 when the Air Staff devised a more structured approach for predicting pilot and navigator manning requirements (Rated Management Document, 1995). This approach would need to "define as precisely as possible a major weapon system's (MWS) requirements, resource inventory and training capability to provide Programmed Flying Training (PFT) guidance to the major commands (MAJCOMS)" (Rated Management Document, 1985).

With that goal in mind, the Chief of Staff of the Air Force (CSAF) approved the Rated Distribution and Training Management (RDTM) system. The system predicted the annual flying training requirements for a 5-year period by using a requirements model and an inventory model. The system produced three different products using these models: annual prediction of requirements, annual prediction of inventory, and distribution of pilot/navigator training graduates against requirements (Rated Management Document, 1985).

An Executive Committee, chaired by the Air Force Director of Operations (AF/XOO) and comprised of representatives from the manpower, programs, personnel, and resources directorates as well as those from all MAJCOMS, Air National Guard (ANG), and Air Force Reserves (AFRES) was established. Subcommittees were developed for each weapon system category (for instance, tactical airlift, strategic airlift, bomber, tanker, fighter, interceptor, trainer, ANG, AFRES, etc.). These subcommittees

were to meet twice a year to derive the annual training rate needed throughout the 5-year period to attempt to have inventory match requirements. Constraints such as production capacity and absorption capacity were incorporated into this process (Rated Management Document, 1995). Absorption capacity is the amount of pilots that can be taken into a weapon system. This amount is limited by follow-on training capacity and total number of airframes available.

However, there were other constraints that made it difficult for the RDTM system to insure a balanced inventory with the required experience levels. Some of these constraints were "copilot overmanning, reduced flying hours, new system conversion requirements, and an inventory imbalance" (Rated Management Document, 1985). These constraints along with the challenge of dealing with post-war drawdown issues led to the development of the Rated Management Initiatives Group (RMIG) in early 1976. Their charter was to consolidate the efforts of other study groups, offer ideas on how to maintain desired experience levels, and increase stability. The RMIG recommendations directly resulted in the implementation of three programs: fighter lead-in training, an increase in active duty service commitment (ADSC), and the Accelerated Copilot Enhancement (ACE) program (Rated Management Document, 1985). Fighter lead-in training is the additional training (in an AT-38) provided to a UPT graduate prior to training in a weapon system. This training provides a foundation of basic fighter maneuvers and employment methods and reduces the amount of training needed to be accomplished in the weapon system. The ADSC is the amount of time (in years) that a pilot must serve to repay the AF for his training. By increasing ADSC, the AF is able to get more return for its investment. ACE is a program that benefits copilots flying bomber

and tanker aircraft. It provides auxiliary training in either the T-37 or T-38 aircraft in order to allow copilots to accumulate more flying time (and therefore, more experience) without using valuable heavy aircraft time.

The Rated Management Planning Group (RMPG) was created in 1979 to deal with the shortage generated by the pilot exodus that year. Their tasking was to study rated management policies and create a rated prioritization plan to handle the deficit. The prioritization plan was deemed necessary to ensure our primary mission capability by protecting force and training authorizations. Simply put, this meant that they were to man the line aircraft and dole out the rated staff positions to the competing commands as necessary. While the shortage for 1979 was over 1,300 pilots, the very large expected pilot shortage never came about due to the lessened demand from the airlines for pilots (Rated Management Document, 1995). This was probably due in large part to increased oil prices, which drove several airlines out of business.

In response to the shortage, Undergraduate Flying Training (UFT) production increased throughout the early 1980s and presented the Air Force with another rated management problem. How were they going to absorb the pilots produced to ensure the proper mix of experience levels and force structure? By the summer of 1981, the CSAF directed a study group to explore absorption options. Out of their 16 initiatives, the Air Force decided to implement two of them: Career Trainer track and Project Season. The career trainer track sought to increase absorption by designating a percentage of first assignment instructor pilots (FAIP) to remain in Air Training Command (ATC) and therefore, not require MWS training. Project Season sought the same goal by sending

first assignment pilots and navigators to fly with Guard and Reserve units full time to gain necessary experience.

Another result of the 1981 study was the need to reevaluate the rated management process. Senior Air Force officials made several substantial changes to the process in March of 1982. The subcommittees were eliminated, a Rated Management Executive Conference (RMEC) was established to meet semi-annually, and the Rated Management Document was created. The goal in streamlining this process was to work issues at the lowest level possible and to elevate only those that could not be handled at the functional staff level. This would keep the members of the Executive Committee involved in the process directly so that eventually the formal committee structure could be dissolved (Rated Management Document, 1995).

Pilot retention began to suffer again during the mid-80s as the airlines began to hire once more. Problems with long term sustainability and absorption surfaced as experience levels dropped and accident rates increased. In fact, Project Season was canceled in 1985 due to poor performance, retention, and safety records of those members participating in the program (Rated Management Document, 1995). The ADSC of pilots graduating from pilot training was increased from 6 to 7 years in 1987 and again to 8 years in 1988. In October of 1988, an authorizations conference recommended elimination of the rated supplement position (where pilots were placed in non-flying jobs) which the CSAF approved. Flight pay was increased significantly and Aviation Continuation Pay (ACP, known as the pilot bonus) program was initiated in 1989 in an effort to retain pilots in the Air Force. Pilot prioritization plans developed in the late 70s were examined for applicability during the forecast pilot shortage.

Following the collapse of the former Soviet Union in 1989, most Air Force officials began to ready themselves for the force cuts sure to accompany the loss of our Cold War enemy. The Persian Gulf crisis served to slow the drawdown for a short time. Accession pipelines during this time could not be reduced quickly enough to prevent overproducing pilots, so the CSAF sought to cancel UPT slots that had already been allocated. Unfortunately, Congress overrode these attempts by the CSAF to limit UPT production, which resulted in pilots having to wait at various choke points in the system. Pilots had to wait at UPT bases for follow-on training slots to become available and then were stacked up again at the replacement training units (RTUs) waiting for operational cockpits to open. With this in mind, the CSAF decided that the solution was to "bank" newly graduated UPT students in non-flying jobs for just less than 3 years. This policy was implemented in 1991 and was in effect for FY 92 and FY 93 classes as well.

The CSAF also decided to draw down the FAIP manning numbers and allow pilots to participate in early separation programs. Several other initiatives were implemented to handle the growing surplus of pilots. The majority of field grade officers were grounded to create more flying opportunities for company grade officers. "Feet-on-the-Ramp" policies were enacted during this time frame to prioritize cockpits for those pilots demonstrating long-term retainability. Three classes of pilots were subject to this policy which removed them from the cockpit. Any deferred (passed over for promotion) pilots, any pilots eligible for the bonus who declined to accept it, and any pilots who had formally applied for a date of separation (DOS) were grounded from flying duties for their remaining time in service (Rated Management Document, 1995).

One last initiative taken during this time frame by the CSAF was to slash UPT production from almost 1,500 pilots in FY 91 to approximately 500 pilots per year starting in FY 94. This was thought to be the lowest UPT production level feasible to still exercise the infrastructure and instructor force sufficiently. Unfortunately, the three-year period of low pilot production has created an interim shortage in several year-groups, which will complicate force structure manning issues for the next 15 years. This problem known as the "bathtub" effect will be discussed in a later section.

By 1993, the pace of the drawdown began to slow and the problem of large numbers of pilots at training bases began to disappear. The CSAF recognized the unpopular nature of the pilot bank and sought to eliminate it entirely by FY 97 instead of the originally proposed deadline of FY 99. The method for wiping out the pilot bank called for overabsorption by all the major weapon systems. Further accelerating the termination of the pilot bank program, the CSAF ended the practice of banking pilots in September of 1993, and then set FY 96 as the goal for returning all banked pilots to flying duties.

The very next year, experts predicted that the Air Force would once again go from a pilot surplus to an extreme deficit in a very short time. The CSAF responded by mandating that UPT production would increase from 500 per year in FY 95 to over 1000 per year by FY 01. He also called for the end of early out programs for pilots and a 20% reduction of pilots in staff positions (Rated Management Document, 1995).

The Rated Management Document published in 1995 offers some valuable insights on rated management as observed during the last 20 years since its formal origin. These observations are contained here to provide food for thought:

> Changes in force structure drive rapid changes in requirements, usually inside the decision cycle for programming training resources and accessions. Demand for rated officers historically drives requirements to the limit of what is supportable by existing force structure. The primary constraint on production is the ability of ops units to absorb new pilots and navigators while maintaining acceptable experience levels and stability (time-on-station). Our unwillingness to accept a near-term surplus or shortfall drives us to chase requirements with short-term solutions at the expense of long-term objectives. Any period in which we fail to maximize absorption increases problems for future years, usually requiring painful and expensive solutions. If production is already constrained by experience/stability limits, failing to maximize production represents a lost training opportunity that cannot be recaptured in later years. Training is not an avoidable cost. Pilot retention is cyclic and airline hiring has more effect on pilot retention than anything the Air Force can do internally. Prediction of retention patterns is not a precise science. Successful rated management is characterized not by materialization of predicted problems, but rather by aversion of predicted problems through appropriate and humane corrections. Nothing is absolute. Even the unthinkable is possible.

It is important for leaders to learn from the past. The lessons stated above have been garnered from slightly over 20 years of experience with the formal rated management process. There is a central theme echoing throughout these lessons learned. Changing UPT production in order to prevent short-term surpluses or deficits will make long-term rated management difficult at best. If at all possible, it would be better to produce pilots at a calculated sustainment level and accept minor inventory vs requirements deviations. Additionally, varying UPT production to prevent these deviations is a reactive policy and is certain to exacerbate the problem.

III. The Pilot Exodus of 1979

Background

The situation facing the Air Force during the late 1970s was very turbulent. There was an unprecedented surplus of pilots from 1974 to 1978 while the requirements were dropping from 28,500 in FY 74 to 21,900 in FY 78 (Garton, 1998). There were two major factors for this abundance of pilots. First, the end of the Vietnam War resulted in an almost 25% reduction in pilot requirements. The other contributing factor was the UPT pipeline that had been ramped up for wartime production could not be suddenly brought to a screeching halt (Leland, 1978). As a matter of fact, UPT production was severely curtailed from 2167 in FY 74 to a post-World War II low of 1047 in FY 79 (Garton, 1998). Unfortunately, this lower production occurred just as the pilot exodus began. By 1979, the Air Force experienced a shortage of 1,329 pilots after having a surplus of 3,013 the previous year. The problem with pilot retention became so great, in such a short period of time, that pilot separations were cited as the "single greatest personnel issue confronting the command [Strategic Air Command (SAC)] during the year [1978]" (Leland, 1978).

The Air Force had a liberal policy that allowed pilots to leave the service with very little notice. Assuming that the pilot had not incurred any additional service commitments such as those added for training, school completion, or permanent change of station moves, a pilot only had to submit a 3 month notice before a requested separation date (Leland, 1978).

Impact

The largest problem the Air Force faced was the loss of experienced pilots - particularly those in the 6 to 11-year group. These pilots represented the core experience group of any flying organization and had typically reached the status of aircraft commander. It would not be enough to just increase UPT production again to replace those pilots who were departing. These pilots would not be able to replace the experience lost when the senior pilot leaves the service. Additionally, training those new pilots to give them experience in the weapon system exacerbated the problem. The flying necessary to train these new pilots would detract from flying time necessary to keep other squadron members current and proficient (Leland, 1978).

There were two other reasons the loss of pilots was especially unpalatable. First, there was the economic impact of losing a valuable training investment. These costs were realized in monies spent on UPT, aircraft time, maintenance, and even the salaries paid to the pilots themselves. In 1978, it was estimated that the cost to train a B-52 pilot to the aircraft commander level was $200,000 (Leland, 1978). A shrinking Air Force budget made the loss of experienced pilots even more untenable. Second, the Air Force was looking at fewer pilot requirements in the early 80s but faced the probability of obtaining many advanced aircraft. These new aircraft would require the talents of many of the experienced aviators who were choosing to leave the service.

The commanders of the various MAJCOMs viewed the pilot retention problem in different lights. General Ellis, Commander of Strategic Air Command (SAC), believed that his command was not experiencing the severe pilot retention problems affecting the other commands. Separations of 6 to 11-year pilots in SAC's KC-135 force were at 57%

for the 12-month period ending in March of 1978. Also, the separation rate for SAC's B-52 and FB-111 pilots was running at 45% (Leland, 1978). General William Moore, Commander of Military Airlift Command (MAC), was probably the hardest hit with an overall separation rate of 77% for 6 to 11-year pilots during the same time frame (Leland, 1978). General Moore realized the seriousness of the situation, personally took control of the MAC pilot retention program, and sought ways to reverse the trend. General John W. Roberts, Commander of Air Training Command (ATC), acknowledged that his command was facing a similar challenge. Instructor pilots were leaving the Air Force at a rate of 56% during the same one-year period. General Roberts was especially concerned to find out that in two of his 60-man squadrons, 35 pilots had separated to join the airlines during a six-month period. The problem became so severe that "increased separations, if continued at the current rate, would affect pilot production and create a middle management vacuum in the future" (Leland, 1978). Finally, Tactical Air Command (TAC), typically less susceptible to retention downturns, was not spared from the pilot shortage problem. Fighter pilots in the key 6 to 11-year group had separated at a rate of 43% in the same period sampled for the other commands. This number may not seem alarming at first glance, particularly when compared to the numbers being experienced by the other major commands. However, it was particularly significant due to the type of pilot involved -- the fighter pilot. These pilots required the most costly and time-consuming training of any weapon system. Historically, these aviators were the most inclined to stay in the Air Force and make it a career and even they were starting to leave in large numbers (Leland, 1978).

Causes

One of the most obvious enticements causing pilots to leave the Air Force was increased airline hiring. A major factor in the increase of airline hiring was the impending retirement of World War II era pilots. Many airline pilots were reaching the mandatory 60-year old retirement age in 1978 and would continue for the next couple of years. Airlines were also hiring at an increased rate due to the deregulation of the airlines (Leland, 1978).

Deregulation led to route expansions and the advent of many new airlines. This, in turn, resulted in many more jobs for pilots. Historically, the airlines had hired anywhere from 200 to 300 pilots annually throughout the 1960s and early 1970s. This number was predicted to increase to somewhere between 1,500 and 2,000 annually during the late 70s. It was estimated that approximately 78% of these new pilots would be ex-military aviators (Leland, 1978).

Senior leadership in the Air Force considered airline hirings to be a symptom of the problem as opposed to the actual cause of the pilot retention problem. They believed that they would always lose a number of pilots to the airlines due to the greater salaries available. However, they were also concerned about the pilots who separated before retirement to take other jobs in the civilian industry. Any retention initiatives developed were aimed at retaining this group of aviators (Leland, 1978).

Rated management personnel at the time predicted that the pilot exodus would lead to a severe shortage if separation rates continued at the same pace. The Air Force

found itself over 1,300 pilots short in FY 79 and this number was expected to grow to over 3,000 pilots short by 1984 (Bonnell, 1981).

Feedback

Senior leadership attacked the retention problem with a twofold approach - conducting surveys and convening retention conferences. Their goal was to determine the reasons pilots were leaving the Air Force and to recommend corrective actions. Surveys conducted by MAC, TAC, SAC, and ATC revealed five common career irritants identified by pilots: (1) uncertainty about the future (this included pay, benefits, promotions, and retirements), (2) the Officer Evaluation Report system, (3) the perceived inability of senior leadership to change the system, (4) the lack of individual input into the assignment system, and (5) family disruptions (Rhodes, 1986).

Some of these themes would resurface during a SAC command-wide retention conference held in late 1978, modeled after a MAC pilot retention workshop that was conducted in June 1978 (Leland, 1978). Lieutenant General Lloyd R. Leavitt, Jr. who was the SAC Vice Commander in Chief at the time, chaired the SAC conference. The conference attempted to get a cross-section of all pilots in the command by gathering 32 pilots of various aircraft with different categories of commitment being represented: those who had a date of separation established, those who were undecided as to whether to make the Air Force a career, and those who were firmly committed to serving a full career (Leland, 1978). The members of the conference were charged to provide "first-hand information" to senior leadership as to the source of pilots' discontentment. They were also to recommend courses of action to address these problems.

The conference members identified four general areas of pilot discontent in their outbrief to General Leavitt. They were: (1) management and leadership, (2) personnel policy, (3) operations and training, and (4) pay and benefits (Leland, 1978). These issues correlate to those mentioned earlier in pilot surveys.

Some of the frustrations with leadership were expressed in a letter written by several captains at Holloman Air Force Base in 1978 entitled "Dear Boss" (Air Force Times, 1997). This was an emotional letter written (in the first person) to explain to a commander the exact reasons why he was leaving the service. The author stated that he was tired of "doing more with less." He felt that leaders were more concerned with making things look good and were more apt to give their superiors answers they wanted to hear as opposed to the truth. He also voiced concerns about the reward for excellent performance being the lack of punishment (Anonymous, 1997).

The "up or out" policy of the Air Force was mentioned by the retention conference members as a factor which was driving pilots out. This policy refers to the practice of separating officers who fail to progress in rank. If a captain is deferred for promotion twice to major, then he is separated from the service barring any continuation programs that may be in place. In other words, you must make rank if you want to stay in the Air Force. General Leavitt understood the concerns of the conference members but did not agree with their opinion that the "up or out" policy was a contributing factor to increased pilot separations (Leland, 1978).

Conference members critiqued the personnel system for its lack of soliciting or accepting input from the service member. Often times people were sent to remote assignments with very little notification or were promised one job only to have it taken

away within a few weeks (Anonymous, 1997). This type of disregard for the individual or his preferences just added to the frustration being experienced by pilots.

Operations and training were also cited during the conference as irritants. In particular, members felt that many aspects of ground training were redundant and unnecessary. Most of these recurring training items were required to be accomplished on an annual basis after flying and other duties were completed (Leland, 1978). In addition to excessive ground training requirements, the committee recognized the growing number of additional duties being assigned to fliers as burdensome. These were jobs that were created in the squadron in addition to the primary duty of flying aircraft. Some of these jobs included voting officer, suggestions monitor, and vehicle control officer (Leland, 1978). Many felt that these positions actually duplicated the efforts of other jobs being performed by other base agencies.

Finally, pay and benefits were a problem for all officers. For the three-year period from 1975 to 1978, annual military pay raises had all been below 5% which was significantly below the existing inflation rate of 6.8% (Leland, 1978). This failure to keep up with the rising economical costs had led to an estimated 6.3% pay gap between military and civilian pay (Kross, 1998).

Response

The senior Air Force leadership set out to implement numerous initiatives to address the concerns raised in the surveys and retention conferences. While many of these ideas represented new ways of doing things, several only required refining programs already being utilized.

One major area of improvement was to expand the lines of communication between the leadership and the younger military officers. SAC began to post more training and operational issues in publications like Combat Crew Magazine. The personnel directorate even began disseminating its own newsletter to keep members apprised of policies and programs that would have an impact on them and their careers (Leland, 1978). The goal of this initiative was to keep members informed and to include the individual in the process.

Another suggestion that promised a large return for a relatively small investment was the increased recognition of aircrew members. Headquarters SAC pointed out to commanders that pilots and navigators serving on crew duty could be eligible for up to 29 different awards and citations (Leland, 1978). This would go a long ways towards dispelling the thought that the only reward for good performance was a lack of punishment. It was also a very cost-effective means of recognizing top performers and instilling pride in job accomplishment.

One of the most significant areas of concern mentioned earlier was the overwhelming amount of time dedicated to doing things not directly related to accomplishing the primary mission of flying aircraft. The Directorate of Training in SAC trimmed ground academic training courses by roughly 15 to 40 percent each (Leland, 1978). This move coupled with continuous efforts to reduce the number of repetitive additional duties promised to make more efficient use of aviators' downtime.

The last major initiative was the effort to ensure adequate pay compensation. There were two significant changes to the pay structure of the aviators that aimed to bring salaries more in line with expectations. The first measure was the increase of aviation

career incentive pay (flight pay) to a maximum of $245 per month (Kross, 1998). This provided incentive for pilots to stay longer as the level of flight pay was directly tied to length of service. Military pay was the other area that received attention from senior leaders. In 1980 and 1981, basic military pay was increased 11.7% and 14.3% respectively (Jaroch, 1990). This represented the first time in 20 years that pay had been increased by over 10%. This last measure helped to provide financial incentive to not only the military aviator but to all personnel as well.

Analysis

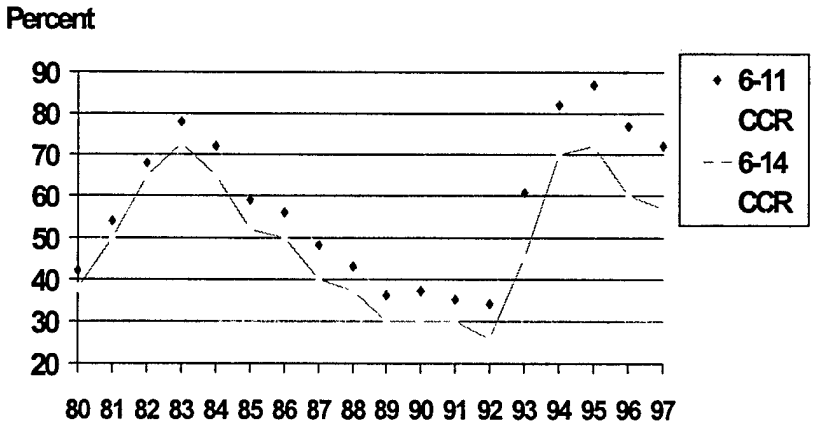
How effective were all of these programs and initiatives in solving the pilot retention crisis? There were two ways to measure the effectiveness of any program in dealing with the pilot shortage. The easiest way is to simply look at the pilot requirements for a year and compare them to the inventory of pilots available and determine whether there is a surplus or a shortage. It would be beneficial to look at the situation in 1979 and compare it to the next several years to detect any trends. The Historical Pilot Production, Inventory, and Requirements table located in Appendix A has all the information needed to accomplish this task.

In FY 79, the Air Force was ended the year with a 1,329 pilot deficit. This deficit was not only due to the exodus of pilots, but also in large part to the increase in pilot requirements. Pilot requirements went from 21,900 in FY 78 to 23,800 in FY 79 -- an increase of 1,900. Pilot requirements would stay relatively stable throughout the rest of the observation period and indeed throughout the rest of the 80s. It can be seen that the pilot shortage decreased steadily until there was a surplus again in FY 84. This information is summarized in Table 1.

Table 1. Historical Pilot Inventory and Requirements (Garton, 1998)

Fiscal Year	Inventory	Requirements	Surplus/Shortage
78	24,913	21,900	3,013
79	22,471	23,800	-1,329
80	21,896	23,000	-1,104
81	22,297	23,400	-1,103
82	22,814	23,700	-886
83	23,458	23,800	-342
84	23,901	23,600	301

The other way to measure the effectiveness is to look at a statistic called the Cumulative Continuation Rate (CCR). This number represents the "percentage of officers entering their 4^{th} or 6^{th} year of service that will complete 11 or 14 years of service given existing retention rates" (Officer Retention Analysis, 1998). For instance, a 70 percent CCR for pilots in the 6-11 year group indicates that for every 100 pilots entering their 6^{th} year of service, only 70 will complete their 11^{th} year, assuming that retention rates remained the same. Most officials use CCR for either the 6-11 year period or the 6-14 year period. This window of service represents the time period where most pilots have reached the experienced level and are filling instructor/evaluator pilot positions. The 6-11 year CCR for pilots was at an all-time low of 25.7% in FY 79 (Officer Retention Analysis, 1998). CCR began climbing steadily in FY 80 until it reached a peak of 78% in FY 83 (See Figure 1). A look at the 6-14 year CCR indicates the same trend existed. The 6-14 year CCR for pilots reached an all-time low in FY79 as well with a mark of 21%. The value began to rise significantly in the next four years until it hit an all-time high of 73% in FY 83 (Officer Retention Analysis, 1998). The plotted values for Air Force pilots' CCR from FY 80 to FY 97 are graphically depicted in Figure 1.



	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97
6-11 CCR	54	68	78	72	59	56	48	43	36	37	35	34	61	82	87	77	71
6-14 CCR	50	65	73	65	52	50	40	37	30	30	30	26	45	70	72	60	57

Figure 1. Air Force Pilot Retention (Officer Retention Analysis, 1998)

Before it can be concluded that all of the retention problems were solved with the initiatives developed by the Air Force, it is necessary to examine a few other factors that were prevalent at the time. These contributing factors may not have been responsible for the end of the pilot exodus, but they certainly mitigated the severity of the situation.

One unique aspect of the pilot manning situation in the late 1970s was the existence of the rated supplement position, where pilots were assigned full-time duties other than flying. Rated supplement duty consisted of rated officers who were performing duties in pursuit of advanced academic degrees or were serving in support fields. The purpose of these positions was to provide a method of storing valuable wartime assets, rated officers, while continuing to provide them with career broadening opportunities (Bonnell, 1981). In 1979, there were approximately 3,500 pilots in rated supplement positions (Kross, 1998). These pilots provided a much-needed buffer for the

personnel officials responsible for rated management. The rated supplement officer offered two advantages over a pipeline UPT graduate. First, there was less time and cost associated with retraining a non-current pilot than there was for training a UPT student. Also, a recent flight school graduate could never duplicate the wealth of experience brought back to the cockpit by the return of the rated supplement aviator. Returning these rated officers to flying status helped the Air Force to make it through a challenging period.

The Air Force did several more things to battle the pilot shortage problem. These steps may not be labeled initiatives but they surely had some contribution in turning the problem around.

One action taken was to increase the active duty service commitment from five to six years (Kross, 1998). This gave the planners a little more stability when it came to filling Air Force requirements. It also provided the younger aviators a little more time in the service to evaluate their position and consider a career.

The other significant step taken by the Air Force was to increase UPT production. As discussed earlier, this method of dealing with pilot shortages has been used in the past. Even though these young pilots produced did not have the experience to replace that lost by the departing aviator, they are still necessary to maintain the force structure. Pilot production was increased from a post-World War II low of 1047 in FY 79 to approximately 1700 in just two years time (Garton, 1998). The infrastructure and people were in place to allow that number to increase to almost 1900 the next year. This represented an 80% increase in output over the three-year period. Pilot production then

maintained an output of at least 1500 for most of the remainder of the 80s. (See Appendix A for pilot production numbers)

The final factor to be considered when examining the situation in the late 1970s is the economy. When the experts predicted a shortage of 3,000 pilots by 1984, they counted on economic conditions remaining relatively stable. They also believed that the airline industry would be robust and would hire the 1,500 to 2,000 pilots annually which everyone expected. This was not to be the case, however. In 1980, the country entered a period of recession. National unemployment rates rose from 5.8% in 1979 to 9.7% in 1980 (Jaroch, 1990). This in turn caused a slow down in airline hirings. Specifically, the airlines hired 4,432 pilots in 1979 as compared to only 837 in 1980 (Jaroch, 1990).

There were numerous factors that contributed to the quick turnaround in the pilot management problem. Shortages were reduced by initiatives introduced by the Air Force and by situations outside of their control. Programs such as reducing additional duties and increasing flight/military pay were specifically aimed at reducing the irritants causing pilots to leave the service. Other actions such as returning rated supplement officers to fly and expanding UPT production attempted to maintain the force through other means. These steps taken by senior leadership combined with the downturn in the economy resulted in averting a potentially serious pilot shortage.

IV. The Current Situation

As the Air Force prepares to enter the 21st century, it finds itself in the midst of a pilot retention problem that threatens to exceed any experienced to date. This situation comes on the heels of a period of five years of where a moderate surplus of pilots was maintained. If current retention trends are not reversed, the impact on readiness could be disastrous.

Background

From FY 92 to FY 96, the pilot surplus ranged from approximately 800 pilots to just over 400. During this same period, as part of continuing drawdowns, pilot requirements dropped from 17,890 to 14,365 (Garton, 1998). Unfortunately, the outlook for the future is not so bright.

All leading indicators for pilot retention exhibit strong downward trends. With the advent of the pilot bonus in 1989, the strongest indicator of pilot retention behavior has now become the bonus take-rate (Black, 1998). The bonus take-rate is simply the percentage of eligible pilots in a fiscal year that accept the ACP bonus and agree to remain in the Air Force for a period of time. For comparison, only members who sign up for the long-range bonus plan (variable-length bonus plans will be discussed later) are considered in the bonus take-rate percentage. The bonus take-rate reached a high of 81% in 1994 and has been on a steady decline since that time (Black, 1998). The trend for the bonus take-rate is shown in Figure 2. The data reflects updated take-rates for FY 97 and includes all bonus-eligibles through 27 May 1998. The numbers for FY 96 and FY 97 were 58% and 34% respectively. Currently, with almost 2/3 of FY 98 completed, the

bonus take-rate is only at 26% (AFPC Retention Page, 1998). This becomes a major concern because it is estimated that 90% of those who decline the bonus will request separation from the Air Force within two years. (Chapman, 1997)

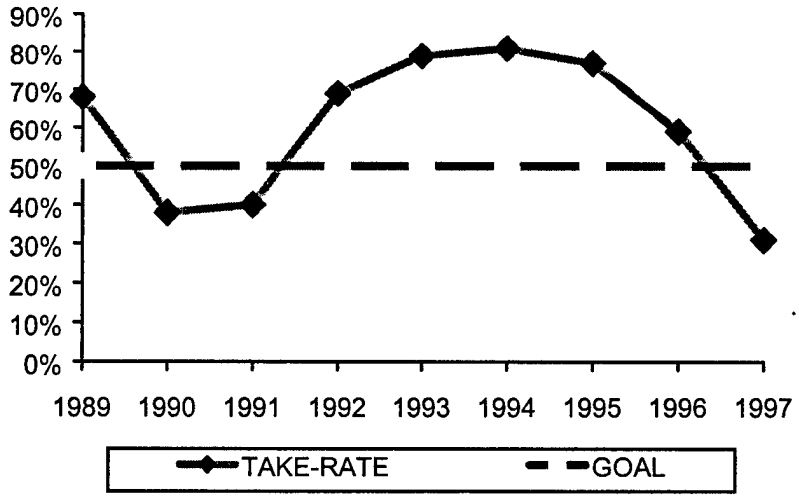


Figure 2. Bonus Take-Rates (Black, 1998)

The other leading indicator of pilot retention is still 6-11 year and 6-14 year CCR. This statistic is also showing signs of a growing problem. The 6-11 year figure reached an all-time high of 87% in FY 95 and has dropped since then to 56% by mid-FY 98 (Officer Retention Analysis, 1998). The corresponding number for 6-14 year CCR exhibits the same trend. The high point in recent times also occurred in FY 95 with 72% but has slid to 40% by mid-FY 98 (Officer Retention Analysis, 1998). The graphical depiction of the CCR trends was presented in Figure 1 on page 22 of this paper.

Impact

The magnitude of the pilot deficit facing the Air Force could be tremendous. If current conditions continue, the shortage of pilots will reach a peak at 2,341 in FY 02. This would be the worst percentage shortfall (17%) in the past 40 years (Garton, 1998).

How did the Air Force find itself in this situation? There were a number of factors that contributed to the current crisis.

Causes

The collapse of Communism in 1989 left the United States without its long-time enemy (Rated Management Document, 1995). The military buildup throughout the 1980s had been conducted with the goal in mind of defeating Soviet aggression. Without this immediate threat, the American public demanded what many referred to as a "peace dividend." They wanted to see some of the money that had been previously spent on the military to now be used to combat other domestic problems. The CSAF attempted to slow down the UPT pipeline in anticipation of the reduced requirements that would result from the drawdown by canceling pilot slots that had already been awarded. Congress overrode the CSAF's efforts (in response to Congressional inquiries initiated by affected students) and the Air Force was forced to produce more pilots in 1991 than they could absorb into cockpits.

The Air Force decided to place pilots into "banked" positions, rather than to stack them up at the training units (Rated Management Document, 1995). These were non-flying positions similar to the rated supplement position used during the late 1970s. The idea was to place them into the "bank" for a period not to exceed 2 years 10 months, at which time they would be returned to fly. In FY 91, 384 out of the 1468 pilots produced were placed in the "bank." The next two years the numbers were 364 out of 974 and 329 out of 749 respectively (Garton, 1998).

In 1994, the CSAF made the decision to reduce UPT production to approximately 500 students per year (Rated Management Document, 1995). Pilot production dropped

from 1468 in FY 91 to 533 in FY 94. The total number of pilots produced hovered around 500 for three years until 1997 when 673 were graduated.

The drop in pilot requirements, as a result of the drawdown, was also precipitous. The Air Force pilot requirements in FY 89 were 22,300 which has since been slashed to 14,207 in FY 97 (Garton, 1998). This represents a decrease of over 36% in the last eight years. The combination of the lowered requirements with a high rate of retention made pilot management difficult. The pilot "bank" was just one method used to prevent an enormous surplus of pilots.

In June 1991, pilots were allowed to request early departure from the Air Force in attempts to reach mandated end-strength numbers. This would provide some relief for an overtasked absorption system. Voluntary Separation Incentives (VSI) annuities and Special Separation Benefits (SSB) lump-sum benefits were offered in order to entice more personnel in targeted career fields and year groups to voluntarily separate short of retirement. All officers were subject to selective early retirement boards (SERBs) and reduction in force boards (RIF) which were used to further draw down the force. With few exceptions, field grade pilots were removed from flying status to provide more cockpits for company grade aviators (Rated Management Document, 1995).

The ACP pilot bonus had been initiated in 1989 in anticipation of an expected shortfall. The deficit only reached 583 in FY 90 due to the reasons mentioned earlier. Even though the Air Force faced a pilot surplus, the bonus program continued to be offered to pilots. The bonus program was maintained in an effort to identify pilots with long-term retention probability. In its original form, the bonus offered $12,000 per year to pilots who had completed their initial UPT commitment. In turn, the pilot agreed to

remain in the service until the 14-year point. Officers who declined the bonus were considered long-term retention risks and were placed "feet-on-the-ramp" to maximize cockpits for other personnel. As can be seen in Figure 2, the bonus take-rate reached its highest point during this period. Other officers under the "feet-on-the-ramp" program were those deferred for promotion and those who had applied for a date of separation (Rated Management Document, 1995).

The drawdown impetus began to slow by early 1993. The CSAF was able to reduce UPT production to a more manageable level the next year. Thus, he called for an end to the pilot "bank" system and urged returning these pilots to cockpits as quickly as possible. This resulted in all banked pilots being brought back to the cockpit by 1996.

However, in early 1994, planners' projections of a quick turnaround from a pilot surplus to a large deficit caused the CSAF to direct UPT production to increase from 500 per year in FY 95 to 1050 in FY01 (Rated Management Document, 1995). This schedule has since been accelerated with a goal of producing 1025 pilots in FY 99 and 1100 in FY 00 (Black, 1998). The Air Force also eliminated early-out programs and directed a 20% cut in pilot staff manning. Compared to the relative ease with which pilots could leave the service in the early 90s, officers must now submit separation notice at least six months prior to their requested date of separation.

In addition to the problems caused by rapidly changing requirements and production levels, the continuing influence of the airline hiring cycle is having an impact. Airline hiring has an inverse relationship with the ability of the Air Force to retain its pilots. As the airlines hire more pilots, the Air Force finds that its retention rates drop in response and the CCR decreases. (See Figure 3) The two major indicators of pilot

retention, bonus take-rate and CCR, tend to lag behind the rate of change in airline hires. The bonus take-rate lags airline hiring by approximately 5 to 9 months. Cumulative continuation rate has a lag of almost 21 months when compared to airline hiring (Black, 1998). This occurs because most pilots have incurred some service commitment that prevents them from getting out as soon as airline hiring increases.

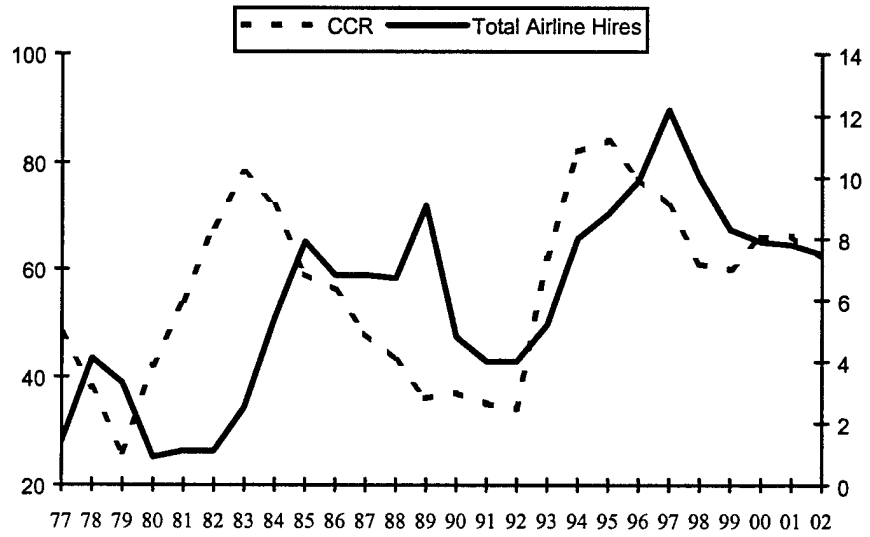


Figure 3. Cumulative Continuation Rate vs Airline Hiring (Black, 1998)

The airlines' practice of hiring military pilots poses a particularly difficult problem for the Air Force for two reasons. First, the military trained pilot is highly desired by the airline industry. In fact, Dean Breezt, a Delta spokesman, stated that "the very best pilots come from the military, and we do have a very high percentage of military pilots" (Matthews, 1997). During a four-month period in early 1997, Delta Airlines hired 100 new pilots. Military pilots represented 80 of those new hires (Matthews, 1997). This practice is not likely to change anytime soon, as the demand for airline pilots is increasing and is expected to do so for the near future. A robust economy and open skies agreements with countries in Europe, Latin America, and the Pacific fuel

speculation that airline growth will continue at a rate of 4 to 6% per year (Matthews, 1997). In addition, increasing numbers of Vietnam-era pilots will be reaching the Federal Aviation Administration's (FAA) mandatory retirement age of 60 during the next several years. A 1997 Air Force Magazine article estimates that retirements should average approximately 1,500 to 1,600 pilots per year through 2005 and then increase to about 2,000 pilots through 2008 (Chapman, 1997). In order to meet this increasing demand, airlines will continue to hire a large number of pilots. It is estimated that airline hires for the major airlines will remain above 3,000 for the foreseeable future (Matthews, 1997). Figure 4 shows only the number of hires expected by the major airlines. These are the 14 airlines that gross over $1 billion a year.

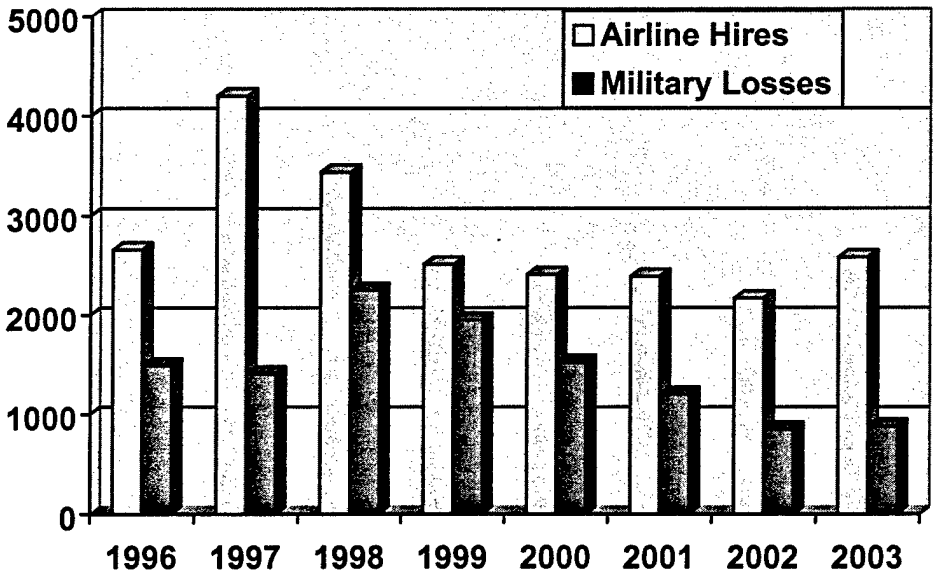


Figure 4. Recent and Projected Airline Hires vs Military Losses (Black, 1998)

A troubling aspect of the increased demand can be seen in this figure. Major airline hires will *exceed* the total number of military aviators eligible for separation for the period depicted. This makes each military pilot who separates that much more attractive to the growing airline industry.

Preemption and Feedback

The Air Force has taken an aggressive stance in dealing with the current and forecast pilot retention problem. It is difficult to pick up a copy of The Air Force Times, Air Force Magazine, or any other defense-related publications without finding mention of the pilot retention problem or initiatives being proposed as solutions. Senior leaders in the Air Force realize the need to take a hands-on approach and are taking a variety of approaches to turn retention around.

General Walter Kross, Commander of AMC, addressed the retention problem in mid-96 at a time when most senior leaders had yet to acknowledge the severity of the problems leading to the crisis. He began a series of aircrew initiative messages following several visits to operational units. The focus of the program is to address concerns raised by aircrew members during unit visits (AMC/CC Aircrew Initiatives Messages, 1998).

These messages are not limited to dealing with retention-related problems. Issues such as command and control, training policies, and operational tempo problems are covered in the 31 messages released thus far. There are several messages containing retention issues that are worth noting.

Message #1 (August 1996) gave waiver authority for the "feet-on-the-ramp" policy to wing commanders, giving them authority to return these pilots to flying duties. This waiver was for pilots who had established a date of separation or who had been

deferred for promotion. Message #4 (September 1996) rescinded the unpopular "feet-on-the-ramp" policy altogether effective 1 Oct 96. Concerns with high levels of operational tempo were addressed in fully 10 messages. Message # 20 (July 1997) provides the outline for the "hotmail" program. This initiative allows deployed members free access to an electronic mail account in order to communicate with their families. Computers are located in aircrew lounges and detailed instructions are provided to create individual accounts (AMC/CC Aircrew Initiative Messages, 1998). All aircrew initiative messages can be found at the AMC home page on the Internet - http://www.safb.af.mil:81/hqamc/amchome. A Commander's Forum has been established at this location to answer frequently asked questions covering a wide range of topics. Finally, if an individual has specific concerns that are not being addressed, he can e-mail the commander directly at cinctran@transcom.safb.af.mil.

Today's technology allows leaders to disseminate information in a rapid manner and to make themselves available to continually gather feedback. The rapid expansion of the world wide web has created unique opportunities for the Air Force to keep in touch with its people. Currently, there are numerous locations on the web where timely information can be viewed by anyone with access to the Internet. AMC, ACC, and Air Education and Training Command (AETC) all have pages dedicated to aircrew retention that are command-specific. The Air Force Personnel Center (AFPC) has a retention page that includes details on service-wide programs, legislative actions, and up-to-date information on the bonus take-rate.

The primary focus for most of these sites, at this time, is on the pilot retention problem. This is due to the severe nature of the immediate pilot retention problem and

does not represent a lack of concern for other crew positions. In the future, these sites will expand their focus to encompass retention problems facing other crew positions.

There have been advances in other areas as well. First, senior-level involvement has been important in the battle to increase pilot retention. The commanders of the major commands visited operational units to find out first hand, which issues are of concern to their pilots. These trips show a personal dedication to the aircrew members and allow them to provide unfiltered information. The positive impact of these visits cannot be overlooked. Second, surveys have been conducted in many forms over the past several years. Both written and telephone surveys provide commanders with the specific areas of concern for aviators. Another goal of these surveys is to determine what actions would be necessary to keep pilots in the service. This ongoing search for answers is a testament to the resolve senior leaders have in finding a solution to the retention crisis.

Surveys and web sites are not the only tools being used in the battle to turn around pilot retention trends. Senior leadership discussed the topic at several top-level meetings. The Jun 96, Dec 96, Nov 97, and Feb 98 CORONAs (meeting of all AF four star generals), the Sep 96 Aircrew Management Summit, and the Apr 97 pilot retention summit at the Air Force Association convention all addressed the growing problem of pilot retention (Roeder, 1998).

Results gathered in a FY 97 survey provide an excellent framework to discuss the issues that are driving pilots from the Air Force and the initiatives developed to address them. Ten areas were given as the answer to the question "What was the top reason why you declined the pilot bonus?" (Black, 1998) The results of the survey are shown in Table 2.

Table 2. 1997 Survey Results (Black, 1998)

Area Cited	% Chosen
High Operational Tempo	22%
Quality of Life	20%
Fly for Airlines	13%
Staff Requirements	10%
Commitment too Long	9%
Personnel Policies	8%
Leadership	6%
Assignment Policies	3%
Waiting for New ACP	3%
Poor Career Potential	2%

The number one reason given for declining the bonus was high operations tempo. In an interview with the Air Force Times in January of 1998, Air Force Chief of Staff, General Michael Ryan, stated that "we are a third smaller and four times more deployed than we were back in the 1980s, and that's not going to change in the future" (Matthews, 1998).

Personnel are deployed in the Middle East and Bosnia due to the unrest in these areas. Being deployed for long periods of time creates stress due to separation from family members. Also, it can be frustrating when deployed in locations where pilots are not allowed to exercise their flying skills on a routine basis. Often times, the mission is to fly in a patrol orbit for a period of time and then return to the base. This type of flying does nothing to enhance training and therefore, pilots will have to catch up on their training and any other work missed when they return home (Matthews, 1998).

One of the primary measures of operational tempo is the amount of time spent deployed. The Air Force has set a goal of limiting temporary duty (TDY) days to 120 per year. In addition to this step, all MAJCOMs have instituted a stand down program for personnel returning from an extended TDY. Service members are given 7 days of non-activity following a deployment of greater than 45 days and 14 days for a deployment of greater than 90 days (Black, 1998).

Other factors raising the operations tempo are exercises and inspections. The CSAF in conjunction with the Chairman of the Joint Chiefs of Staff are seeking to reduce joint exercises by 15% in FY 98 and the services have been directed to cut their exercises by 5% for FY 99 and FY 00 (Roeder, 1998). To reduce the number of inspections a unit must prepare for, the CSAF eliminated all Quality Air Force Assessments effective 1 January 1998. Also, Operational Readiness Inspections (ORI) were reduced by 10% in FY 98 and are slated to be cut by 30% in FY 99. Serious consideration is being given to combining ORIs with real-world deployments to lessen the tempo (Roeder, 1998).

Quality of life was the second most cited reason for declining the bonus. Some of the initiatives discussed in the previous paragraph will not only reduce the operational tempo, but will also go a long ways towards improving the quality of life. The electronic mail system incorporated into aircrew lounges will help the deployed aviator stay in touch with his family and make the separation more bearable (Black, 1998). The Air Force is testing video link technology at various overseas locations to enable deployed members to talk to and see their families over the Internet (Roeder, 1998).

Another program being tested to improve quality of life is the unit Ombudsman concept. This program uses a designated unit representative to provide aid to families of

deployed crewmembers. The goal is to provide structure to what has traditionally been an informal support network. Misawa AB, Offutt AFB, Hurlburt AFB, McConnell AFB, and RAF Mildenhall are taking part in this test program. Initial results from the field have been favorable (Roeder, 1998).

The third most cited reason for not accepting the ACP pilot bonus was airline hiring. To better combat the airlines' enticing pay offerings, the aviation continuation pay program was revamped in the FY 98 National Defense Authorization Act (NDAA) (Roeder, 1998). Inflation had eroded the original value of the program by about 35% since its inception in 1989 (Chapman, 1997). The program had lost further value due to an increase in ADSC from 6 to 8 years following graduation from UPT. Long-term agreements under the new plan are now worth $22,000 per year for a 5-year period. Shorter contracts of 1,2 and even 3-year periods can be obtained for $6,000, $9,000, and $12,000 respectively (Roeder, 1988). The previous bonus package did not allow for variable-length contracts. Now a pilot that is eligible for the program can commit to any length of service up to the 14-year point. Another facet of the FY 98 NDAA is the provision for increasing Aviation Career Incentive Pay. Flight pay for aviators between 14 and 22 years of service will be $840 per month as opposed to the previous maximum of $650. This increase was originally scheduled to take effect on 1 January 1999 but will now be effective on 1 October 1998 (Roeder, 1998).

Language contained in both the Senate and House marks of the FY 98 NDAA has mandated a comprehensive aviation compensation review. The Office of the Secretary of Defense has established a working group to complete this review of all aviator pay (Roeder, 1998). This review will incorporate all rated and non-rated aviators, both

enlisted and officer. It will also be necessary to address the gap that exists between the military and civilian sector pay. At the present time, the pay gap is estimated to be 14% (Maze, 1998). Congress would have to authorize a substantial increase in basic military pay to close this gap.

Many of the other cited reasons for not accepting the pilot bonus were related to rated management. The Air Force has taken several steps towards improving aircrew management and opportunity. First, the promotion opportunity to major was raised to 90%. This resulted in over 200 more promotions for the CY 97 boards (Black, 1998). Increased promotion opportunities will hopefully ease some members' doubts about the promotion system. However, some pilots will still be concerned with the amount of time they will spend in the cockpit in future years. They may think that missing the opportunity to complete a staff tour will further hinder their chances of getting promoted. To address this problem, the Secretary of the Air Force will make a combined pilot and navigator promotion board charge for the CY 98 Lt Col and Col boards. This charge will state that the officers were unable to complete staff tours commensurate with their rank because they were needed to fly to meet Air Force requirements (Black, 1998). Another corollary to this policy is the recent decision to eliminate below the zone promotions to major. This is in an effort to de-emphasize the school of thought that led junior officers to seek staff positions as captains in order to secure below the zone promotions. Finally, a rated prioritization plan is being devised to assign pilots to critical billets (Black, 1998). This plan would continue to man the flying squadrons at 100% while reducing the pilot staff positions at various headquarters levels. Lieutenant General David Vesely, AF assistant Vice Chief of Staff, stated in a June 1998 interview that staff jobs typically held

by pilots will be filled by non-rated officers or not filled at all (Matthews, 1998). Official release of this plan was estimated to be in early 1998, but it is still in development.

There is one program under consideration by the Air Force that deserves mention. Phoenix Aviator 20 is a proposed alliance between the USAF and the major airlines. The intent of the program is to entice pilots to remain in the service for 20 years by making the transition to the civilian airline industry easier. Pilots would indicate during their 17th year of service that they wish to take part in the Phoenix Aviator program. The Air Force would provide (or pay for) the essential things a pilot needs to be marketable to the airlines - recent flying experience, airline transport pilot (ATP) rating, current FAA first class physical, and flight engineer written qualification. The Air Force would return the officer to flying duties to provide the necessary flying experience. If a pilot is in a staff position, he would be worked back to a flying position as his time on station allows. If he is in a flying billet at the time, he would remain in the same plane at the same base until retirement. The ATP rating is not required to be hired by the airlines but it is considered highly desirable. This rating includes both a written and a flying examination. There are civilian organizations that provide training for this rating, but it is possible the Air Force could accomplish this training with FAA evaluators administering the examinations. A first class physical is required by the FAA. The last requirement is the flight engineer written examination. This test takes about two days to complete and costs approximately $200 for the preparation and the testing. The cost of obtaining an ATP, first class physical, and the flight engineer written for one pilot is $1,700, which would all be incurred during the last year of service (McGinty, 1998).

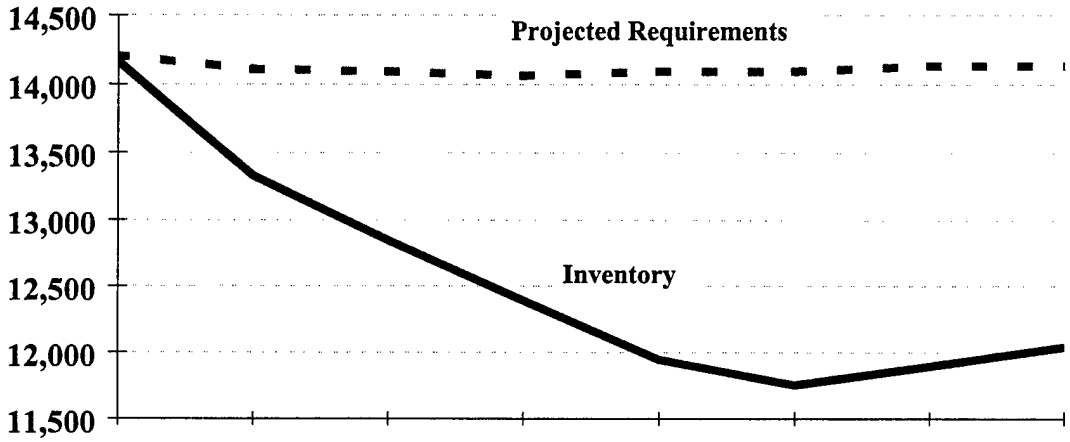
Personnel participating in this program would have to realize that any promotion opportunity to Colonel would be severely limited by their decision. The Phoenix Aviator 20 program has the potential to lure some of those pilots who are contemplating separation into staying in the Air Force until retirement. As will be seen in a later section, retention of pilots with greater than 14 years of service will become a major concern in the coming years.

V. What Can We Learn?

At first glance, it would appear that the situation facing the Air Force in the late 70s was much more severe than the current pilot retention problem. In both cases, a pilot surplus existed just prior to a rapid decline in retention that resulted in a pilot shortage. In 1979, the Air Force experienced a shortfall of 1,329 pilots despite having an excess of 3,013 the previous year. This represents a swing of over 4,000 pilots. In today's situation, the Air Force went from a surplus of 409 in 1996 to a deficit of 42 in one year's time - a total change of only 451. However, a closer look at the two scenarios reveals other interesting information. Previously, the shortage of 1,329 was the highest the deficit would grow and represented a 5.5% shortfall. A major factor in the rapid swing was the increase of pilot requirements of 1,900 in 1979. Additionally, the airline industry was hiring pilots in record numbers, but this pull would only last for two years. This would help explain the relatively short nature of the pilot retention problem. Currently, the deficit of pilots should be approximately 800 by year's end and is expected to grow until it reaches a peak of over 2,300 in FY 02. This figure represents a shortfall of 17% from requirements and comes at a time when requirements have remained stable. The shortage is expected to be approximately 2,000 pilots through the year 2008 if current conditions exist.

Figure 6 shows the relationship between pilot inventory and requirements through FY 04 in a graphical representation often referred to as the Red Line - Blue Line assessment. The red (dashed) line refers to pilot requirements and the blue (solid) line represents pilot inventories. The specific assumptions used to derive this prediction are included in Appendix A. Some of the assumptions are included here: (1) Majors and

majors and captains deferred for promotion will be offered continuation, (2) ACP take-rates have been lowered due to increased airline hiring and decreased retention, (3) variable length ACP contracts offered, and (4) no participation by non-deferred pilots in drawdown programs (Garton, 1998).



	FY97	FY98	FY99	FY00	FY01	FY02	FY03	FY04
Inventory	14,165	13,328	12,846	12,391	11,945	11,752	11,891	12,037
99 PB Reqts	14,206	14,109	14,092	14,061	14,093	14,093	14,135	14,135
Delta	-41	-781	-1,246	-1,670	-2,148	-2,341	-2,244	-2,098
Percent	0%	-6%	-9%	-12%	-15%	-17%	-16%	-15%

Figure 5. Forecast Pilot Inventory vs Projected Requirements (Garton, 1998)

Analysis

There are several reasons why the current problem is expected to be much more severe than experienced in the late 1970s. During both time periods, the military was going through post-war drawdowns. The Air Force used early out programs to allow members to separate early in both cases and significantly reduced UPT production prior to the retention crisis. In the late 1970s however, the presence of a large pool of rated

supplement aviators (approximately 3,500) provided a buffer to cushion the blow of a pilot exodus (Kross, 1998). Today's rated management personnel do not have the luxury of a pool of pilots to bring back to the cockpit. The only thing similar to the rated supplement was the pilot bank. This pool of pilots serving in support jobs was returned to flying duties in FY 96 and only numbered slightly over 1,000 at its peak. Another difference is the ability to increase UPT production. Existing infrastructure in the 70s allowed rapid expansion to combat the pilot exodus. Today's force finds itself with only three UPT bases and serious concerns about its ability to produce enough pilots to meet requirements.

Given the argument that the Air Force will be short of pilots, it seems a logical response to this problem would be to increase the number of pilots produced by UPT. Why worry about lagging retention rates when you can replace departing pilots with new pilots with an eight-year commitment? In this respect, nothing has changed from attitudes prevalent during previous retention problems. The investment cost of losing pilots is enormous. It costs approximately $5.9 million to train one pilot to the experienced level (typically, aircraft commander or formation flight-lead) (McGinty, 1998). Just as in previous retention dilemmas, the problem is compounded by the fact that you are losing a large monetary investment in addition to a loss of experience. The Air Force would be losing the backbone of their experienced instructor and evaluator pilot force. It is possible to replace the departing pilots over the long-term by producing enough new ones, but it is impossible to duplicate the experience lost or to measure its impact. To ensure the proper force structure and experience levels in the Air Force, it

will be necessary to not only produce more pilots, but to retain more of its experienced aviators as well.

The size and type of the Air Force today are markedly different from that of the late 70s. During the late 70s, the Air Force was in the midst of a Cold War with a clearly defined enemy. The operational tempo at the time was relatively stable. However, there was a large portion of our forces stationed in forward areas. Air Force pilots numbered over 22,000 and comprised approximately 30% of the officer force (Kross, 1998). Today's Air Force faces a different challenge. There are no clearly defined enemies on the horizon. Instead, the Air Force must be capable of responding to a wide spectrum of operations with ever-shifting constraints. The roles will range from peacekeeping operations to humanitarian assistance or even treaty compliance. Many believe we can expect a continued increase in operational tempo from a largely CONUS-based force. However, the force used to execute these missions is smaller than that of the late 1970s. Pilot inventory is approximately 14,000 and accounts for 26% of the officer force (Kross, 1998).

Today's leaders have been much more active in addressing the retention problem. Previously, the crisis was solved by reducing the rated supplement pool, raising ADSCs, increasing UPT production, and increasing compensation. The other contributing factor to the solution of the late 70s exodus was the rapid drop in airline hirings after a two-year climb. Proposed rated management plans to combat the problem were shelved as the envisioned shortages never materialized.

Presently, several initiatives and programs have been implemented to address concerns raised by pilots during fact-finding trips. Operational tempo and quality of life

problems top the list of irritants cited by aviators. Increasing UPT production is already underway, with a goal of producing over 1,100 pilots a year within two years. The challenge for senior leadership is to retain enough pilots to maintain the desired force structure. This will have to be accomplished despite predictions of an extended airline-hiring period. It does not seem likely that the airlines will stop hiring pilots like they did in the early 1980s, barring any unexpected downturns in the economy. The biggest lesson to be learned from the previous and present rated management problems is this -- any solutions must be long-term. This sentiment is echoed in the Rated Management Document published in 1995. "Our unwillingness to accept a near-term surplus or shortfall drives us to chase requirements with short-term solutions at the expense of long-term objectives."

VI. Potential Problems

There are a few areas that need to be monitored as the pilot retention crisis continues. First, retention of pilots with greater than 14 years of service will become a topic of more concern in the next several years. Second, the ability of our UPT production pipeline to train the necessary numbers to sustain the force requires immediate attention. Finally, there are important safety concerns that need to be addressed. These topics represent areas that could grow to be tremendous obstacles in future years.

Post-Bonus Retention

Even though the Air Force is not forecast to reach its worst deficit until FY 02, the next four years will present one of the largest challenges to date. It will become increasingly important to retain pilots who have completed their initial bonus commitment. To understand the significance of the looming challenge, it will help to examine a chart of Air Force requirements divided by year groups. (See Figure 6)

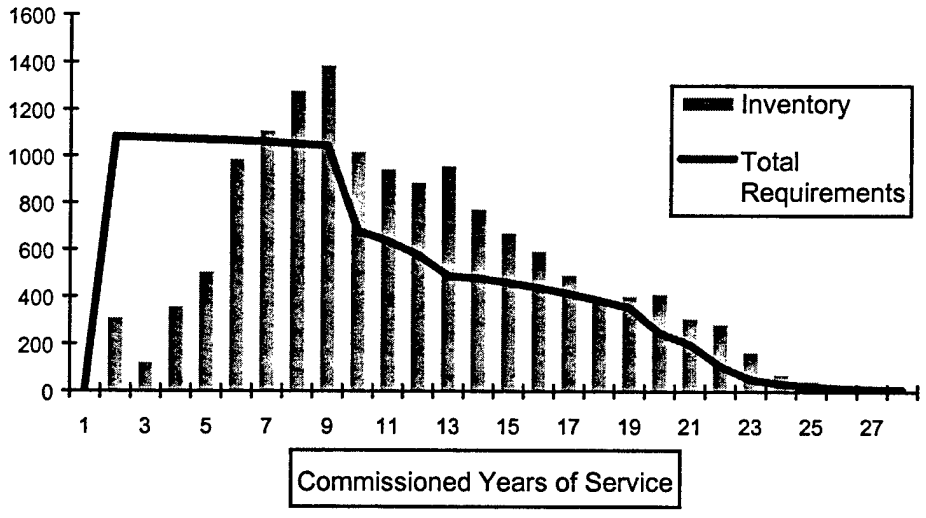


Figure 6. FY 97 Pilot Distribution by Year Groups (Black, 1998)

The first thing that can be observed in the distribution of pilots by year group is the large gap that exists between inventory and requirements year groups with two to five years of service. This gap is commonly referred to as the pilot "bathtub." The "bathtub" was created by historic low UPT production rates during this 4-year period (Black, 1998). Approximately 500 pilots were trained per year from 1993 - 1996. This gap will continue to cause problems for rated managers as it slides to the right in coming years. Eventually, this period of low production will become less of a problem as the requirements drop for those year groups. The second thing that can be drawn from this figure is the number of year groups above the requirements line. The range from 10 - 14 years of commissioned service corresponds directly to the 1988 - 1984 year groups. Bonus take-rates for these year groups reached the highest points in the history of the bonus program. These take rates are believed to be artificially high due to several years of low airline hiring and the "feet-on-the-ramp" policy in effect at the time. Pilots in these year groups are being counted on to fill the gap created by the "bathtub" effect. They represent experienced pilots who cannot be readily replaced by UPT graduates (Kross, 1998). Lt Col Russ Frasz, the Air Force's chief of rated-force policy, stated in a February 1998 interview that "we [AF] recognize the need to keep these people. They are the key to combat readiness" (Bird, 1998).

The reason for concern regarding separations of post-bonus aviators is that there is no accurate method to forecast what the retention rate will be for these pilots. There is no historical precedence for this situation. Since the bonus program began, between 29 and 33 percent of each year group have remained on active duty after their commitment expired. This coincides with the fact that approximately 30% of any given year group

will stay in the service until retirement. Therefore, if pilots can be kept in the service until the 14-year point, many will probably be inclined to stay until retirement (Bird, 1998). The higher take-rates explained in the previous paragraph have led to uncharacteristically high numbers of pilots remaining in service for the 1985 - 1988 year groups. At this time, 48% of the 85-year group pilots are still in the service, 59% for 86, 60% for 87, and 67% of 88 (Bird, 1998). Current models assume a 15% separation rate for pilots who have completed their bonus commitment. This leads to a total of 668 pilot losses for the 84 - 88 year groups. If the model is changed to reflect only 30% of the year groups staying until retirement, the number increases to 2,005. Post-bonus separation rates for these year groups would then range from 28 - 55% (McGinty, 1998).

Table 3. Post-Bonus Separations (McGinty, 1998)

YR GRP	PROD	REMAIN	%	15% LR	30% BL LR	DELTA	14 YR+ LR %
79	1543	445	29%				
80	1693	472	28%				
81	1875	582	31%				
82	1783	585	33%				
83	1937	593	31%				
84	1872	780	42%	117	218	-101	28%
85	1799	872	48%	131	332	-202	38%
86	1453	859	59%	129	423	-294	49%
87	1468	887	60%	133	447	-314	50%
88	1565	1054	67%	158	585	-426	55%
				668	2005	-1337	

Table 3 presents the data for the individual year groups. The 15% LR column represents the current assumptions of a 15% loss rate. The next column provides the number of losses if the assumption is made that 30% of a year group will remain after the bonus commitment. The delta represents the amount of increased pilot losses using the

new assumption. Post-bonus loss rates for these year groups after adjusting for the 30% assumption are shown in the last column.

Another look at Figure 6 shows that pilot requirements drop off significantly after the 9-year point. This coincides with the expiration of the initial ADSC incurred upon the completion of UPT. Starting in the 10th year and continuing through the 14th year, the requirements are reduced by more than 50%. Rated management derived the inventory distribution to ensure the proper mix of experience in each year group. The situation today is unique due to the low production of pilots in the early 90s. Normally, the inventory distribution seeks to have year groups trimmed to 30% by the time they reached the 14-year point. Now, it becomes untenable to lose any of these experienced pilots. As mentioned before, there are no accurate methods of predicting the actual separation rate of post-bonus aviators. However, there has been some indication of the intent for some of these pilots. During the CY 97 major promotion board, 107 pilots wrote letters to the board asking not to be promoted (Bird, 1997). This number increased to 168 pilots in the board just convened in April (Stevens, 1998). These are members of the year groups that are being counted on to fill the "bathtub" effect.

There is one more factor that has the potential to worsen the situation in the next several years. Year groups affected by the pilot "bank" program will be eligible for the bonus beginning in FY 99. The 91 - 93 year groups had 26, 37, and 44% of their pilots placed into the "bank" respectively (Garton, 1998). It will be hard to measure the frustration felt by these pilots and to predict the bonus take-rates. Current assumptions for the take-rates in these year groups are 28, 29, and 30% respectively (Garton, 1998).

The combination of lowered take rates for these year groups and increased separations of the post-bonus pilots could make the retention crisis even more severe than predicted.

UPT Production Capacity

Undergraduate pilot training capacity is a challenge for senior leadership. The emphasis on retaining more experienced pilots in MWS dictates that less of them will be available to instruct at UPT bases. The instructor shortage can be solved with an innovative approach being used at Vance AFB, Oklahoma. Air Force Reserve pilots serve as instructors and the plan is scheduled to expand to all UPT bases in the near future (Kross, 1998). There is also consideration being given to increasing the number of first assignment instructor pilots (FAIPs). This would increase the total number of instructors while not taking experienced pilots from the MAJCOMs.

The overriding concern, however, is not the instructor force but the infrastructure. In the early 80s, AETC had five training bases capable of producing 2,400 pilots per year. Due to closures at Williams AFB, Arizona and Reese AFB, Texas, the Air Force has three primary UPT bases with a capacity of approximately 1,300 students per year (Proctor, 1997).

Assumptions were made during the Base Realignment and Closure (BRAC) rounds that UPT could run at 90 to 95% of maximum capacity. In reality, the Air Force uses a figure of 85% as its maximum comfort zone of operation (Chapman, 1997). The T-38 trainer is actually programmed to fly at over 100% capacity at present time to meet requirements (Proctor, 1997). By comparison, the T-1 is only programmed to fly at 80% capacity during the same time frame. The proposed solution is to transfer bomber students to the T-1 for the third phase of UPT and provide "top-off" training in the T-38

prior to graduation (Proctor, 1997). The T-37 is also feeling the pinch of increased flying requirements. In 1998, the T-37 will operate at 86% of capacity and is scheduled to reach 98% in the out years (Chapman, 1997). Relief may be in sight for the T-37 fleet as delivery of the Joint Primary Aircraft Training System (JPATS) will begin in 1999. There are efforts being made to accelerate the procurement of this new initial trainer as there might be benefits in increased capacity and reduced training hours required to be realized (Proctor, 1997).

Safety

The increased workload at UPT bases brings up two safety concerns. First, instructor pilots are flying three student sorties a day, six days a week. Sorties are being launched at a rate of one every three minutes and both traffic patterns and training areas are being saturated. Sustained operations at this rate could lead to fatigue or even worse, complacency. The higher risk associated with this heavy load of flying has caught the attention of AETC commander, General Lloyd Newton. He informed his wing commanders to call "knock it off" whenever it is necessary to prevent an unsafe situation from developing (Chapman, 1997).

The second area of concern is the possibility of pushing through students who might not have graduated in the past. There is no directive to graduate every single person who enters UPT. In a June 1998 Air Force Times interview, Colonel Steve Martin, AETC Chief of Resources Division, indicated that an attrition rate of 9.1% for T-37 training is being planned for the next four years. Currently, a rate of 12.1% is programmed. Colonel Martin went on to say that if T-37 attrition is greater than 9.1%, "we [AF] won't have enough pilots" (Bird, 1998). Just how does the AF make sure the

attrition rate decreases to the desired level? Care needs to be taken that standards are not lowered in order to meet increased production goals. The impact of such actions could possibly be seen in higher accident rates by these new pilots over the next several years.

VII. Conclusion

The pilot retention dilemma has occurred several times throughout the 50-year history of the Air Force. The situation in the late 1970s (considered the worst retention problem to date) compared to the situation today appears very similar at first glance. However, upon further study, it is clear to see that today's challenge is much more severe than in any previous crisis. A relatively small force that is working at an increased operational tempo has become very susceptible to the lure of the airline industry. There are, of course, many other internal and external factors that affect a pilot's career choice. The Air Force has been very aggressive in dealing with the pilot retention problem. Many of the initiatives mentioned in this paper would make the situation better not only for pilots, but for all service members as well. Quality of life improvements specifically provide relief for personnel in all career fields.

The battle to retain sufficient pilots to maintain our readiness posture has just begun to take shape. The most critical time for the Air Force will be the next five years. Three factors will come together at the same time that could lead to greater than predicted pilot shortages. First, there has been an increase in the number of pilots separating after their bonus commitment expires and no accurate model exists to predict how this trend will continue. Second, year groups affected by the "pilot bank" program will reach their bonus decision and no one knows how that program will influence their bonus take-rate. Finally, the low production year groups in the early 1990s will not yet hit the 10-year point when requirements for pilots begin to drop. In other words, the "bathtub" will still exist throughout the next five years. During this time, it will be important to maintain the aggressive attitude taken over the past two years.

With this in mind, here are a few possible courses of action that could be taken by the Air Force to increase retention or mitigate the effects of lower retention. Phoenix Aviator 20 should be implemented as soon as possible. This program holds the most promise for retaining the post-bonus aviators. These pilots will be critical to the Air Force mission in the immediate future. A possible side effect of this program could be increased bonus take rates for mid-level pilots. They could see this program as a positive step on the part of the Air Force and elect to stay in the service until retirement age.

Another idea, mentioned in several publications, is the creation of a national training center for pilots. This could be set up as a joint venture with the services and the airline industry to train pilots. The benefits of such a system are that the military and civilian sector would share the costs of training new pilots and would share the newly trained pilots. A certain percentage of pilots would be allocated to the airlines and others would serve on active duty. A stipulation could be imposed that would require all graduates to serve some type of guard or reserve role if they are chosen to go straight to the civilian sector. This would provide a steady flow to the Air Reserve Component.

Although it has been mentioned in the past, it is worth giving a serious look into an specific dual track system (not one artificially created by selective continuation or increased ADSCs) in the Air Force. Medical personnel, chaplains, and lawyers have met separate boards for years and are handled differently than the rest of the officers. It might prove beneficial to allow a percentage of pilots to serve as pilots for their entire career without the need to fill career-broadening assignments to compete with non-rated officers. Pilots who elected to continue on a fly-only track should be briefed that the highest rank they could hope to achieve would be lieutenant colonel. However, they

would be eligible to fly for over 20 years if they so desired. The British Royal Air Force has a similar program that allows pilots to become aviation specialists at a point in their careers. They are limited by the rank they are allowed to achieve, but they continue to fly into their 50s . A closer look at how the RAF handles this program would be a beneficial area for further study.

The pending review of the aviation compensation program should be completed and released in the near future. Recommendations from this review will be interesting. One school of thought suggests that aviation pay should be tied to seniority. A squadron commander should not be making less than mid-level captains under his command. The ACP could be eliminated and a much higher flight pay system could be incorporated. This system would be tied to seniority and would reward longevity as well as possession of a desired skill.

Another possible idea is to index flight pay with other pays. This would prevent the original value of the compensation from being eroded by inflation. One final pay concern is the pay gap between the military and civilian sectors. Congress should act to erase the 14% pay gap that currently exists. This action is outside the direct control of the Air Force. Unfortunately, a recent development indicates that the gap will continue to increase. The Joint Chiefs of Staff have decided against proposing a large pay increase for the military and have also withdrawn support for a .5% addition to the 1999 scheduled pay raise of 3.1%. A raise of 3.6% would have kept the gap from growing larger (Maze, 1998). The increased raise would have cost the AF $2 billion over the next five years to finance. This money would have come from allowances for other programs as Congress is unwilling to increase the Air Force budget.

There are several actions that can be taken to increase UPT production. The first step is to increase reserve participation at AETC bases. This concept has already proven successful at Vance AFB, Oklahoma. Reserve instructor pilots bring a wealth of experience to the table and allow other MAJCOMs to keep their instructor pilots for internal purposes. The second step is to create another UPT base to expand capacity. Assumptions made about operating capacity at the remaining bases during the BRAC were unrealistic. This mistake should be acknowledged and steps should be taken to expand capacity. Whether this means reopening Reese AFB in Texas or moving infrastructure to an existing base, this needs to be done soon. The high stress being placed on the three UPT bases now cannot be sustained indefinitely. Finally, the buy of the T-6 (JPATS) could be accelerated. This could provide added capacity in the form of reduced training requirements. Maintenance on a newer airframe would be less than that required by the aging T-37 fleet. Higher performance in the T-6 could lead to more efficient use of training time.

There is no magic bullet that will solve the entire pilot retention crisis. It will probably take a combination of several programs and initiatives to turn retention trends around. The suggestions in this paper are only meant to provide food for thought and to stimulate discussions so that new ideas and programs can be developed. There are other ideas (such as 11 or 12 year ADSCs, and outsourcing UPT) that have not been mentioned in this paper. Any of these ideas could ultimately be more effective than any suggestion made above. Senior leadership in the Air Force must continue to aggressively deal with the pilot retention problem. Barring a reversal of economic and/or airline hiring trends, this crisis will not disappear on its own. It is important that leaders learn from past

experiences to avoid having these problems resurface in the future. In particular, pilot inventory should not be controlled primarily by adjusting UPT production levels. This is a reactive policy and usually results in making retention problems worse in the long run. It would be better to produce a sustaining amount of pilots and live with short-term deficits and surpluses as environmental conditions change. A forward-thinking, long-term plan is called for to prevent this situation from occurring again.

Appendix A: Background Information

FY	Pilot Production	Pilot Inventory	Pilot Requirement	Officer Inventory	Percent Pilots	Surplus/ Shortage	
1951	2006	41,259	55,100	106,245	38.83%	-13,841	
1952	3125	44,129	55,800	128,401	34.37%	-11,671	
1953	5451	45,789	53,200	130,769	35.02%	-7,411	
1954	6401	46,728	57,000	129,752	36.01%	-10,272	
1955	5787	50,067	57,100	137,149	36.51%	-7,033	
1956	5701	52,427	57,300	142,093	36.90%	-4,873	
1957	5333	54,489	57,300	140,563	38.76%	-2,811	
1958	3618	51,711	50,000	132,939	38.90%	1,711	
1959	2325	50,803	48,500	131,602	38.60%	2,303	
1960	2116	50,451	48,000	129,689	38.90%	2,451	
1961	1795	48,798	47,800	128,793	37.89%	998	
1962	1299	49,427	45,700	131,908	37.47%	3,727	
1963	1433	46,837	43,900	130,763	35.82%	2,937	
1964	1675	45,257	41,800	133,987	33.78%	3,457	
1965	1992	43,050	37,400	131,578	32.72%	5,650	
1966	1969	40,449	38,200	130,645	30.96%	2,249	
1967	2768	38,447	46,200	135,485	28.38%	-7,753	
1968	3092	37,632	43,400	139,691	26.94%	-5,768	
1969	3216	36,832	37,900	135,475	27.19%	-1,068	
1970	3521	34,808	36,600	129,803	26.82%	-1,792	
1971	3895	34,782	35,100	125,919	27.62%	-318	
1972	4032	35,194	32,400	121,674	28.92%	2,794	
1973	3033	33,171	32,000	115,048	28.83%	1,171	
1974	2167	31,158	28,500	110,316	28.24%	2,658	
1975	2003	29,643	26,400	104,961	28.24%	3,243	
1976	1659	28,361	23,900	99,575	28.48%	4,461	
1976T	388	28,017	23,500	99,042	28.29%	4,517	
1977	1316	26,372	23,300	96,040	27.46%	3,072	
1978	1084	24,913	21,900	95,242	26.16%	3,013	
1979	1047	22,471	23,800	95,900	23.43%	-1,329	
1980	1543	21,896	23,000	97,667	22.42%	-1,104	
1981	1693	22,297	23,400	99,630	22.38%	-1,103	
1982	1875	22,814	23,700	102,188	22.33%	-886	
1983	1783	23,458	23,800	105,458	22.24%	-342	
1984	1937	23,901	23,600	106,590	22.42%	301	
1985	1872	24,198	24,000	108,767	22.25%	198	
1986	1700	24,210	24,200	109,435	22.12%	10	
1987	1453	23,663	23,500	107,738	21.96%	163	
1988	1510	22,819	22,600	105,568	21.62%	219	
1989	1581	21,750	22,300	104,139	20.89%	-550	
1990	1581	20,917	21,500	100,501	20.81%	-583	
1991	1468 (384*)	19,617	19,672	97,162	20.19%	-55	*- denotes
1992	974 (364*)	17,890	17,157	90,874	19.69%	733	Banked
1993	749 (329*)	16,738	15,939	84,598	19.79%	799	Pilots
1994	533	15,963	15,207	81,003	19.71%	756	
1995	480	15,361	14,863	78,444	19.58%	498	
1996	523	14,774	14,365	76,368	19.35%	409	
1997	673	14,165	14,207	73,983	19.15%	-42	

Retention:	FY98	FY99	FY00	FY01	FY02	FY03	FY04
5 Yr ACP Take Rate	27%	28%	29%	30%	31%	32%	32%
1 Yr ACP Take Rate	10%	10%	10%	10%	10%	10%	10%
2 Yr ACP Take Rate	4%	4%	4%	4%	4%	4%	4%
3 Yr ACP Take Rate	2%	2%	2%	2%	2%	2%	2%
USAF's Airline Hiring Est:	3440	2512	2409	2390	2169	2583	2244
Production:	900	1025	1100	1100	1100	1100	1100
Inventory Projection:	13,328	12,846	12,391	11,945	11,752	11,891	12,037

	TOTAL	Ftr	Bmb	Tkr	SAL	TAL	Helo
Projected Tars:	11.5	11.6	12.0	10.9	11.1	11.7	13.2

Assumptions:

- Majors deferred to Lt Col offered continuation, Captains deferred to Major offered continuation
- ACP approved for all eligible fixed-wing/rotary-wing pilots
- Variable length ACP contracts offered
- ACP take rates lowered due to increasing airline hiring and decreasing retention
- No participation by non-deferred pilots in drawdown programs
- Recall Program - 10 pilots a year

As of 1 Apr 98

Source: DPXPR/XOOT
USAF Directorate of Personnel

Shaded boxes reflect changes from 1 Jan 98 report

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Vita

Major Lloyd Ballard was born in Alexandria, Louisiana on 5 July 1964. He received a Bachelor of Science degree in Engineering Mechanics and a commission in the Air Force from the United States Air Force Academy, Colorado Springs, CO in 1986. He attended undergraduate pilot training in August 1986 at Columbus AFB, MS. Following graduation from pilot training in July of 1987, Major Ballard was assigned to the 37th Flying Training Squadron, Columbus AFB, MS as a T-37 instructor pilot.

Major Ballard also served as class commander and wing flight examiner during his 4 1/2 years in the T-37. In September 1993, he moved to Charleston AFB, SC after training in the C-141B. At Charleston, Major Ballard performed duties as instructor/evaluator pilot, squadron executive officer, flight commander, assistant operations officer, and special operations pilot.

In May 1997, Major Ballard was assigned to the Air Mobility Warfare Center, Fort Dix, NJ to attend the Advanced Studies in Air Mobility Masters Program. Upon completion of the ASAM program Major Ballard will be assigned to J-5 in US TRANSCOM at Scott AFB, IL. Major Ballard is a senior pilot with over 2900 flying hours.

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13. ABSTRACT *(Maximum 200 words)*

In its little over 50 year history, the Air Force has experienced several periods of large numbers of pilots leaving the service resulting in critical pilot manning problems. Currently, pilot retention is one of the most serious challenges facing senior leadership. This paper will examine the similarities and differences between the pilot exodus of the late 1970s and the current situation. It is possible that lessons learned in the past can provide some aid in curing today's and projected future poor retention rates. Specifically, initiatives employed in the 1970s will be examined for their applicability today. Also, there has been a push in the last few years to identify the various reasons why pilots are leaving the Air Force prior to retirement age. The policies implemented to address these concerns will be briefly examined. Only time will tell how effective these initiatives will be in slowing the pilot exodus. The paper concludes with a look at potential problem areas in the retention struggle and a few possible courses of action.

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